

REMARKS

Favorable reconsideration of this application, in light of the present amendment and in view of the following discussion, is respectfully requested.

Claims 1-12 are pending in the present application. Claims 2, 5, 6, 9 and 10 are amended and new claims 11 and 12 are added by the present amendment.

As an initial matter, Applicants thank the Examiner for acknowledgment of Applicants' claim to priority, and for confirming receipt of all the certified copies of the priority documents, as noted in items 12 and 12(a) in the Office Action Summary. Applicants respectfully request the status of the Drawings filed December 30, 2003 and March 1, 2004 be acknowledged in the next Office Communication.

Rejection under 35 U.S.C. § 102

In the outstanding Office Action, claim 1 was rejected under 35 U.S.C. § 102(b) as unpatentable over U.S. Patent No. 5,623,907 to Cotton et al. (herein "Cotton"). This rejection is respectfully traversed.

Independent claim 1 is directed to a fuel level system for an automobile, and recites, *inter alia*, a "resistor installed inside or outside the level sender unit within the fuel level system to increase an electric current flowing through a contact of the level sender unit."

In a non-limiting example, FIG. 7 shows a level sender unit 100 installed in a fuel tank of an automobile, a fuel gauge 300, and a resistor 120 installed inside

or outside the level sender unit 100 within the fuel level system to increase an electric current flowing through a contact of the level sender unit 100 (see the specification at page 5, lines 24-29).

Although item 2 at page 3 of the Office Action related the “resistor installed inside or outside the level sender unit within the fuel level system to increase an electric current flowing through a contact of the level sender unit,” as recited in pending claim 1, with Figure 1 and col. 19, lines 25-31 of Cotton, it is respectfully submitted this comparison is in error and that the system of Cotton is different from the features of pending independent claim 1.

In a non-limiting example, Cotton in Figures 1 and 16, and at col. 19, lines 25-31, only discusses using pull-up resistors coupled to chip gate terminal pins “to provide VCC chip power ... and to pull up (or down) gate voltages so that gate reference voltages are not floating noisily in operation of chip 600.” In contrast to the pending claims, Cotton thus only discusses connecting resistors to pins of a “conventional microprocessor chip 600” used for controlling pumps (see Cotton at col. 17, lines 37-47), which is different from increasing “an electric current flowing through a contact of a level sender unit,” as recited in independent claim 1.

Accordingly, it is respectfully submitted independent claim 1 patentably distinguishes over Cotton.

Rejection under 35 U.S.C. § 103

Claims 2-10 were rejected under 35 U.S.C. § 103(a) as unpatentable over Cotton. This rejection is respectfully traversed.

Although item 5 at page 3 of the outstanding Office Action stated that “the various embodiments disclosed in the claims are a mere design choice which do not give any disclosed advantage over, nor cause any unexpected result in view of the Cotton reference,” it is respectfully submitted the features of the pending claims do in fact entail significant advantages.

In a non-limiting example, independent claim 2 recites, *inter alia*, “an additional resistor connected in series to a side of the level resistor and an ignition power source or constant-voltage power source connected in series to the additional resistor.” As a result, increasing a current flowing through the contact of the level resistor can reduce generation of contact resistance (see the specification at least at page 8, line 28 to page 9, line 4).

Accordingly, it is respectfully submitted the features of the pending claims are structural, set forth advantages over the cited art, and are not mere “design choice.” Further, as stated in item 5 of the outstanding Office Action, “...Cotton does not necessarily disclose the exact arrangements as disclosed in the claims...” Therefore, because full consideration should be given to the features recited in claims 2-10, it is respectfully submitted claims 2-10 patentably distinguish over Cotton at least because of the recited features of the pending claims which are not taught in Cotton.

In addition, claims 3 and 7 recite, *inter alia*, that “a diode for preventing an inverse electric current is further disposed between the level resistor and the pull-up resistor.” In contrast, Cotton at col. 18, lines 46-48 merely discusses a diode to prevent circuit operation, but does not teach or suggest that a diode is “disposed between the level resistor and the pull-up resistor,” as recited in dependent claims 3 and 7.

Accordingly, it is respectfully submitted dependent claims 3 and 7 further patentably distinguish over Cotton at least for these reasons, as well as for their dependence from independent claims 2 and 6, respectively.

Moreover, it is respectfully submitted a *prima facie* case of obviousness has not been made under 35 U.S.C. § 103, because the outstanding Office Action does not set forth any factual evidence of the obviousness of the features of the pending claims. MPEP 706.02(j) states regarding rejections under 35 U.S.C. § 103 that: “...the prior art reference (or references when combined) must teach or suggest all the claim limitations.”

In a non-limiting example, independent claim 2 recites, *inter alia*, “an additional resistor connected in series to a side of the level resistor and an ignition power source or constant-voltage power source connected in series to the additional resistor,” and as discussed above, such an arrangement can increase a flowing electric current through a contact of the level resistor and prevent the generation of contact resistance (see the specification at page 8, line 28 to page 9, line 4).

However, the outstanding Office Action does not specify any cited art which teaches such features as recited in pending claim 2. Moreover, even assuming *arguendo* any feature of the pending claims could be characterized as a “design choice,” a rejection under 35 U.S.C. § 103 must still set forth a showing supported by evidence that the “design choice” is obvious, which has not been made in the outstanding Office Action.

Accordingly, it is respectfully submitted this rejection should be withdrawn.

New Claims

In addition, new claims 11 and 12 are added to set forth the invention in a varying scope. New independent claim 11 includes features similar to pending claims 1 and 4, and further recites “the further resistor has lower resistance than the additional resistor,” support for which is found in the originally-filed specification at least at page 9, lines 24 and 25. Also, new independent claim 12 recites features similar to claim 10, but also recites that “the further resistor has lower resistance than the additional resistor.”

New claims 11 and 12 are believed to patentably distinguish over the cited art at least for similar reasons as discussed above regarding claims 1, 4 and 10, and further because the cited art does not teach or suggest at least that “the further resistor has lower resistance than the additional resistor.” It is believed no new matter is added by new claims 11 and 12.

Amendments to the Claims

Also, claims 2, 5, 6, 9 and 10 are amended to correct minor informalities and to better conform to standard claim drafting practice. It is believed no new matter is added by the amendments to claims 2, 5, 6, 9 and 10.

Conclusion

Consequently, in light of the above discussion and in view of the present amendment, this application is believed to be in condition for allowance.

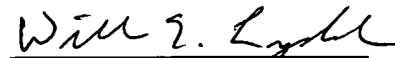
Accordingly, consideration of the present Amendment, reconsideration of the outstanding Office Action, and allowance of the present application and all of the claims therein is respectfully requested.

The amendments to the claims which have been made in this amendment, have not been specifically noted to overcome a rejection based on the cited art, and should thus be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to have attached thereto.

Applicants have made a sincere effort to place the present application in condition for allowance and believe they have now done so.

If the Examiner has any questions concerning this Amendment or the present application, Applicants respectfully invite the Examiner to contact the undersigned at the telephone number listed below.

Respectfully submitted,
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